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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/716,045	11/20/2000	David Carl		7606

7590 09/16/2002

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EXAMINER

SUHOL, DMITRY

ART UNIT	PAPER NUMBER
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3712

DATE MAILED: 09/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/716,045

Applicant(s)

CARL ET AL.

Examiner

Dmitry Suhol

Art Unit

3712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 1, the features of "...such that a column of air moves in laminar flow in at least an upstream portion..." was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention. The applicant provides no explanation or detail as to how laminar flow is achieved in his device (besides stating that the walls are smooth). In fact, figure 3 discloses a plurality of fans arranged in a side by side relationship which would appear to create turbulent eddies rather than achieving laminar flow when in operation.

Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the

specification and the drawings for "said camera...and recessed out of said column of air...". In fact figures 1 and 3 appear to show a camera (40) directly in what would be a column of air.

Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the specification and the drawings for "all existing goals being recessed within the said wall defining said chamber". In fact figures 1 and 3 show an additional wall structure 30 which shows the "goals" located thereon.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 4, 7, 10, 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, the features encompassed by "...diameter of said column of air is variable within said chamber" can't be determined.

Regarding claim 4, the structural features encompassed by the phrase "optionally provided" can't be determined.

Regarding claims 7 and 12, the phrase "certain ones of the fans being turned off so that the only ones of said fans being operated are within the then current diameter of

said chamber” renders the claim indefinite. It is unclear as why some of the fans would be turned off since the claim is dependent from claim 1 which claims only one chamber with one diameter, therefore it would stand to reason that all the fans remain on.

Regarding claim 10, there is no antecedent basis for “said inner wall”.

Regarding claim 13, the structural features encompassed by the phrase “curtain wall” can’t be determined. It is unclear as to what features define a curtain wall.

The remainder of the office action considers the claims as best understood.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitchen et al ‘909 in view of Larsen et al. Kitchen discloses a free fall simulator containing most of the elements of the claims including, a cylindrical wall defining a chamber as required by claim 1 (figs. 4 and 5, element 4), means for generating a column of air under pressure in a chamber as required by claim 1 (col. 2, lines 21-23), a column of air moving from bottom to top as required by claim 1 (col. 2, lines 21-23), a pressure being sufficient to support one flyer therein as required by claim 1 (fig. 2), a wall having a surface and the surface being contiguous with and defining a diameter of

Art Unit: 3712

a column as required by claim 1 (fig. 2, elements 4 and 22), a surface of a wall being smooth such that a column of air moves in laminar flow in at least an upstream portion of column of air as required by claim 1 (figs. 2 and 3) where the lower portion of the wall shown in fig. 2 below the flyer is shown as smooth thus allowing a laminar flow of air. Kitchen further discloses a diameter of column of air being variable within a chamber as required by claim 2, where it is considered that by simply varying the speed of the motor/fan apparatus the diameter of a column of air will change at various points along the tunnel.

Kitchen does not expressly disclose that the flow of air is laminar. However Larsen discloses a wind tunnel apparatus usable in a device like that of Kitchen which teaches a laminar flow of air (col. 3, lines 40-42). Therefore it would have been obvious to one having ordinary skill in the art, at the time of the claimed invention, to manufacture the device of Kitchen incorporating the wind device of Larsen for the purpose of reducing rough simulation conditions of the user and providing a quieter environment for the user (see Larsen col. 3, lines 35-45).

Claims 1-3, 6, 10-11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Methfessel in view of Larsen. Methfessel discloses a free fall simulator containing most of the elements of the claims including, a cylindrical wall defining a chamber as required by claim 1 (fig. 4, element 402), means for generating a column of air under pressure in a chamber as required by claim 1 (fig. 4, element 28), a column of air moving from bottom to top as required by claim 1 (col. 4, lines 54-59), a

Art Unit: 3712

pressure being sufficient to support one flyer therein as required by claim 1 (col. 4, lines 60-65), a wall having a surface and the surface being contiguous with and defining a diameter of a column as required by claim 1 (fig. 4, element 402), a surface of a wall being smooth such that a column of air moves in laminar flow in at least an upstream portion of column of air as required by claim 1 (figs. 4, element 402). Methfessel further discloses a column of air being variable with a chamber as required by claims 2 and 6 (fig.4, elements 402) where it is considered that since the diameter of the wall structure varies in diameter the column of air varies along with the walls (secondary wall is read onto the middle wall 402), a camera being remotely positionable as required by claims 3 and 11 (col. 10, lines 9-13).

Methfessel does not expressly disclose that the flow of air is laminar. However Larsen discloses a wind tunnel apparatus usable in a device like that of Methfessel which teaches a laminar flow of air (col. 3, lines 40-42). Therefore it would have been obvious to one having ordinary skill in the art, at the time of the claimed invention, to manufacture the device of Methfessel incorporating the wind device of Larsen for the purpose of reducing rough simulation conditions of the user and providing a quieter environment for the user (see Larsen col. 3, lines 35-45).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitchen and Larsen, as stated above, in view of Methfessel et al '352. Although Kitchen, as modified by Larsen discloses most of the elements of the claims, as stated above, the reference fails to teach a camera remotely positionable as required by claim 3.

Art Unit: 3712

However, Methfessel discloses a device like that of Kitchen which teaches a remotely positioned camera (col. 10, lines 9-13). Therefore it would have been obvious, in view of Methfessel, to provide a remotely positioned camera in the device of Kitchen for the purpose of being able to video tape the users of the simulator.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitchen. Although Kitchen discloses most of the elements of the claims, as stated above, the reference fails to teach a surface of an inner wall being of a pastel color as required by claim 4. However, Kitchen teaches a projection screen which displays images associated with skydiving (fig. 2, element 24). It would have been obvious to have an inner wall (or screen) being of a pastel color for substituting "blue screen" technology for the projection screen of Kitchen since the examiner takes Official Notice of the equivalence of a projection screen and "blue screen" technology, for the purpose of showing related images and interest to the user, in the virtual reality art and the selection of any of these known equivalents to provide a virtual reality environment would be within the level of ordinary skill in the art.

Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Methfessel and Larsen in view of Louttit. Methfessel, as modified by Larsen, discloses most of the elements of the claims as stated above, and including a secondary wall having a diameter less than a primary wall such that the placement of secondary wall

centrally within a chamber will reduce a diameter of a column of air as required by claim 6 (fig. 4, element 402).

Although Methfessel discloses most of the elements of the claims the reference fails to teach an air generating means being a series of contiguous fans as required by claim 7. However, Louttit discloses a device like that of Methfessel which teaches an air generating means being a series of contiguous fans wherein the fans are controllable (fig. 2, elements 22, 23 and page 2, lines 6-11). Therefore it would have been obvious to one having ordinary skill in the art, at the time of the claimed invention, in view of Louttit, to manufacture the device of Methfessel with a series of controllable contiguous fans for the purpose of regulating air speed and extending equipment life.

Claims 8-9, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Methfessel and Larsen, as stated above, in view of Lenhart. Although Methfessel, as modified by Larsen, discloses most of the elements of the claims the reference fails to teach a goal within a chamber as required by claim 8, and pairs of opposed goals within a chamber as required by claim 9. However, Lenhart discloses a free fall simulator which teaches a goal within a chamber (fig. 2, element 36) and pairs of opposed goals within a chamber (fig. 3, element 36) as well as a series of contiguous fans (fig.6). Therefore it would have been obvious, in view of Lenhart, to manufacture the device of Methfessel with a goal or pairs of opposed goals within a chamber for the purpose of providing an amusing game environment. It would have been further obvious to include

Art Unit: 3712

a series of contiguous fans for the purpose of providing additional air to support the users.

Response to Arguments

Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection. It should be however pointed out that, regarding claim 1, Methfessel does not have to support more than one flyer since the claim states "one or more" therefore the examiner has taken the broadest possible interpretation in the art to equate one or more to one.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Suhol whose telephone number is 703-305-0085. The examiner can normally be reached on Mon - Friday 9am-5:30pm.

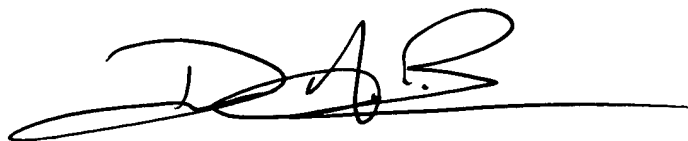
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on 703-308-1745. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

Application/Control Number: 09/716,045
Art Unit: 3712

Page 10

ds
September 11, 2002

A handwritten signature in black ink, appearing to read 'D.H.B.', with a long horizontal line extending to the right.

**DERRIS H. BANKS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700**